

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A probe for generating an electromagnetic field, comprising:
a generator adapted to provide a first current signal having a frequency and a second current signal having a frequency;
a first conductor coupled to the generator, the first conductor for receiving [[a]] the first current signal having a frequency;
a second conductor coupled to the generator, the second conductor for receiving [[a]] the second current signal having a frequency;
a first radiation coil coupled to the first conductor for radiating a first electromagnetic field based on the first current signal; and
a second radiation coil coupled to the second conductor for radiating a second electromagnetic field based on the second current signal, the first and second electromagnetic fields causing an interferential electromagnetic field pattern, wherein the frequency of the second current signal is equal to, or a substantially perfect multiple of, the frequency of the first current signal and/or the first current signal and the second current signal are in phase or out of phase.
2. (original) The probe of claim 1, wherein the first conductor is a coaxial conductor.
3. (currently amended) ~~The probe of claim 1,~~ A probe for generating an electromagnetic field, comprising:
a first conductor for receiving a first current signal;
a second conductor for receiving a second current signal;
a first radiation coil coupled to the first conductor for radiating a first electromagnetic field based on the first current signal; and

a second radiation coil coupled to the second conductor for radiating a second electromagnetic field based on the second current signal, the first and second electromagnetic fields causing an interferential electromagnetic field pattern,

wherein the first conductor and the second conductor are nesting coaxial conductors.

4. (original) The probe of claim 1, wherein the first radiation coil is coupled between the first conductor and ground, and the second radiation coil is coupled between the second conductor and ground.

5. (withdrawn) The probe of claim 1, wherein the first radiation coil and the second radiation coil are in parallel planes.

6. (original) The probe of claim 1, wherein the first radiation coil and the second radiation coil are in perpendicular planes.

7. (original) The probe of claim 1, wherein the probe is less than 10 millimeters in diameter.

8. (previously presented) The probe of claim 1, wherein the frequency of the second current signal is a substantially perfect multiple of the frequency of the first current signal.

9. (withdrawn) The probe of claim 1, wherein the first current signal and the second current signal are out of phase.

10. (original) The probe of claim 1, wherein the first current signal and the second current signal are in phase.

11. (previously presented) The probe of claim 1, wherein the first current signal comprises another frequency and an interferential current signal of the two frequencies.

12-17. (canceled)

18. (currently amended) A probe for generating an electromagnetic field, comprising:
a generator adapted to provide at least two current signals, each of the at least two current signals having a frequency;
a conduction member coupled to the generator, the conduction member for
conducting the at least two current signals, ~~each of which has a frequency~~; and
a radiation tip coupled to the conduction member for radiating an interferential
electromagnetic field pattern based on the at least two current signals, wherein the frequency
of one of the current signals is a substantially perfect multiple of the frequency of the other
current signal and/or the two current signals are out of phase.
19. (currently amended) ~~The probe of claim 18,~~ A probe for generating an
electromagnetic field, comprising:
a conduction member for conducting at least two current signals; and
a radiation tip coupled to the conduction member for radiating an electromagnetic
field based on the at least two current signals;
wherein the conduction member includes six nesting coaxial conductors, each for
conducting a current signal.
20. (original) The probe of claim 19, wherein the radiation tip includes six radiation
coils, each radiation coil has one end coupled to a respective one of the six coaxial
conductors and the other end coupled to ground.
21. (original) The probe of claim 20, wherein the conduction member includes a seventh
nesting coaxial conductor that is coupled to ground and to the grounded end of each radiation
coil.
22. (original) The probe of claim 21, wherein the six radiation coils are positioned in
different planes.
23. (original) The probe of claim 21, wherein the six radiation coils are positioned
substantially in the planes of a cube.

24. (original) The probe of claim 19, wherein isolating material is placed between several of the nesting coaxial conductors.

25. (original) The probe of claim 19, wherein a coolant circulates between two adjacent nesting conductors.

26. (original) The probe of claim 25, wherein the two adjacent nesting conductors include the two outermost conductors.

27. (original) The probe of claim 19, wherein a coolant circulates within one of the conductors.

28. (original) The probe of claim 18, wherein the at least two current signals are conducted on a single conductor as an interferential current signal, and the radiation tip includes one radiation coil coupled to this single conductor.

29. (original) The probe of claim 18, wherein the at least two current signals are conducted on different conductors.

30-33. (canceled)

34. (currently amended) A radiation tip for generating an electromagnetic field pattern to ablate tissue, comprising:

a generator adapted to provide a first current signal and a second current signal;

a first radiation coil coupled to the generator, the first radiation coil for radiating a first electromagnetic field based on [[a]] the first current signal; and

a second radiation coil coupled to the generator, the second radiation coil for radiating a second electromagnetic field based on a second current signal, the first electromagnetic field and the second electromagnetic field causing an interferential electromagnetic field pattern for ablating tissue.

35. (withdrawn) The radiation tip of claim 34, wherein the first radiation coil and the second radiation coil are in parallel planes.
36. (previously presented) The radiation tip of claim 34, wherein the first radiation coil and the second radiation coil are in perpendicular planes.
37. (previously presented) The radiation tip of claim 34, wherein the radiation tip is less than 10 millimeters in diameter.
38. (previously presented) The radiation tip of claim 34, wherein the first current signal has a first frequency, and the second current signal has a second frequency which is a substantially perfect multiple of the first frequency.
39. (withdrawn) The radiation tip of claim 34, wherein the first current signal and the second current signal are out of phase.
40. (previously presented) The radiation tip of claim 34, wherein the first current signal and the second current signal are in phase.
41. (previously presented) The radiation tip of claim 34, wherein the first current signal comprises an interferential current signal of at least two currents.
- 42-47. (canceled)
48. (new) The probe of claim 1, further comprising an electrical ground conductor surrounding the first and second conductors, wherein the first radiation coil is coupled to the first conductor and the ground conductor, and the second radiation coil is coupled to the second conductor and the ground conductor.
49. (new) The probe of claim 48, wherein the first radiation coil surrounds the second radiation coil and, the probe further comprising an isolating material between the first and second conductors.

50. (new) The probe of claim 1, further comprising a cooling fluid passageway.
51. (new) The probe of claim 50, further comprising an electrical ground conductor coupled to the first and second radiation coils, the ground conductor surrounding the fluid passageway, the fluid passageway surrounding the first and second conductors.
52. (new) The probe of claim 18, wherein the conduction member includes at least two conductors for carrying the at least two current signals and a cooling fluid passageway surrounding the first and second conductors.
53. (new) The probe of claim 34, further comprising a first conductor connecting the first radiation coil to the generator, a second conductor connecting the second radiation coil to the generator, and a fluid passageway surrounding the first and second conductors.